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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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PAUL S MADAN  
MADAN, MOSSMAN & SRIRAM, PC  
2603 AUGUSTA, SUITE 700  
HOUSTON, TX 77057-1130

EXAMINER

MCCLOUD, RENATA D

ART UNIT

PAPER NUMBER

2837

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/044,330

Applicant(s)

DUBINSKY ET AL.

Examiner

Renata McCloud

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 10-18, 26-29 and 31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 26-29 is/are allowed.
- 6) ☒ Claim(s) 10-14 and 16-18 is/are rejected.
- 7) ☒ Claim(s) 15 and 31 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

1. In response to the amendment filed 28 June 2004, the following has occurred:  
  
Claims 19-25 and 30 have been cancelled.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 10, 11, and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Meehan (US 6535458).

**Claims 10 and 16:** An apparatus and method for performing acoustic investigations while drilling a borehole comprising: a longitudinally extending body (e.g. Fig. 3A: 10) conveyed in the borehole on a drilling tubular the body and the tubular having fluid flowing through (Col. 1:8-14); an acoustic transmitter (Fig. 3A: 302) supported by the body, the transmitter generating acoustic signals in the body, the borehole and the subsurface formations; an acoustic receiver (e.g. Fig. 3A: 304) spaced apart from the transmitter (e.g. Fig. 3A:302) and supported by the body for receiving the acoustic signals; and an attenuator (e.g. Fig. 3A:303) located on a substantially

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cylindrical portion of the body, between the acoustic transmitter (e.g. Fig. 3A:302) and the acoustic receiver (e.g. Fig. 3A: 304) for attenuating the acoustic signals in the body within a predetermined frequency range; wherein the attenuator comprises a plurality of spaced-apart masses (e.g. Fig. 3A:303, the grooves in 303 form rings) having a predetermined spacing, mass and length, attached to an external surface of an outer wall of the cylindrical portion of the body (Col. 6:31-44).

**Claim 11:** a longitudinal extending body conveyed on a drilling tubular having a drill bit therein for drilling the borehole, the drilling tubular consisting of a drill string (Col. 5: 11-17).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 12-14, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meehan as applied to claims 10 and 16 above, and further in view of Hoyle et al (US 5,043,952).

**Claims 12, 17:** Meehan teaches the limitations of claims 10 and 16. Referring to claims 12 and 17, Meehan teaches the frequency range can be above 370 Hz (Col. 5: 26-27). Meehan does not teach the attenuator comprises a plurality of spaced apart

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masses wherein the predetermined frequency range comprises 10kHz to 20 kHz. Hoyle et al teach the attenuator comprises a plurality of spaced apart masses wherein the predetermined frequency range comprises 10kHz to 20 kHz (e.g. Col. 8:22-26). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus taught by Meehan to extend the frequency range to 10-20 kHz as taught by Hoyle et al. The advantage of this would be a broader range of signal transmission.

**Claims 13, 18:** Meehan teaches the limitations of claims 10 and 16. Referring to claims 13 and 18, Meehan does not teach the attenuator comprises a plurality of spaced apart masses wherein material of the masses is selected from the group consisting of steel rings and tungsten rings. Hoyle et al teach the attenuator comprises a plurality of spaced apart masses wherein material of the masses is selected from the group consisting of steel rings and tungsten rings (e.g. Fig. 4: 6 steel mass loading rings. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus taught by Meehan to use steel or tungsten rings as taught by Hoyle et al. The advantage of this would be a durable attenuator.

**Claim 14:** Meehan teaches the limitations of claim 10. Referring to claim 14 Meehan does not teach the attenuator comprises a plurality of spaced apart masses wherein the plurality of masses is between six and ten. Hoyle et al teach the attenuator comprises a plurality of spaced apart masses wherein material of the masses is selected from the group consisting of steel rings and tungsten rings ((e.g. Fig. 4: 6 steel mass loading rings). It would have been obvious to one having ordinary skill in the art at

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the time the invention was made to modify the apparatus taught by Meehan to use 6-10 rings as taught by Hoyle et al. The advantage of this would be more sound attenuation.

***Allowable Subject Matter***

6. Claims 26-29 are allowed. Claims 15 and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Aron et al (US 5753812).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Renata McCloud whose telephone number is (571) 272-2069. The examiner can normally be reached on Mon.- Fri. from 8 am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on (571) 272-2800 ext. 4. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Renata McCloud  
Examiner  
Art Unit 2837

RDM

A handwritten signature in black ink, appearing to read 'DM', with a large, stylized flourish extending from the end.

DAVID MARTIN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800